

YEROFEEYEV, B.V.; CHIRKO, A.I.; TEREENT'YEVA, Yu.N.

Kinetics of liquid-phase autoxidation of phenylcyclohexane.
Dokl. AN BSSR 3 no.6:244-248 Je '59. (MIRA 12:10)
(Hexane) (Oxidation)

TERENTYEVA, Z. A., DOMAN, N. G., SHKOLNIK, R. YA. (USSR)

Mode of Assimilation of Carbon during Photosynthesis.

report presented at the 5th Int'l.
Biochemistry Congress, Moscow, 10-16 Aug. 1961

DOMAN, N.G.; KRASNOVSKIY, A.A.; ROMANOVA, A.K.; VOROB'YEVA, L.M.; PAKSHINA, Ye. V.; TERENT'YEVA, Z.A.

Chlorophyll synthesis and carbon dioxide fixation in etiolated barley seedlings during exposure to light. Fiziol. rast. 8 no.1:3-12 '61.
(MIRA 14:3)

I. A. N. Bakh Institute of Biochemistry, U.S.S.R. Academy of Sciences,
Moscow.

(Chlorophyll) (Photosynthesis)

ROMANOVA, A.K.; DOMAN, N.G.; TERENT'YEVA, Z.A.

Effect of the age of the culture and composition of the nutritive medium on the products of $C^{14}O_2$ assimilation by hydrogen bacteria. Dokl.AN SSSR 138 no.1:231-234 My-Je '61. (MIRA 14:4)

1. Institut biokhimii im. A.N.Bakha AN SSSR. Predstavлено академиком A.I.Oparinym.

(BACTERIA, HYDROGEN)
(BACTERIOLOGY--CULTURE AND CULTURE MEDIA)
(CARBON DIOXIDE)

DOMAN, N.G.; ROMANOVA, A.K.; TERENT'YEVA, Z.A.

Transformation of some volatile organic substances absorbed by leaves
from the atmosphere. Dokl.AN SSSR 138 no.3:702-705 My '61.
(MIRA 14:5)

1. Predstavлено академиком А.Л.Курсановым.
(Plants--Assimilation)

DOMAN, N.G.; ROMANOVA, A.K.; TERENT'YEVA, Z.A.

Pathway of carbon in chemosynthesis; nature of the early product of chemosynthesis in hydrogen bacteria. Dokl.AN SSSR 138 no.6:1456-1459 Je '61. (MIRA 14:6)

1. Institut biokhimii im. A.N.Bakha AN SSSR. Predstavлено
академиком A.N.Tereninym.
(BACTERIA, HYDROGEN) (BIOSYNTHESIS) (CARBON DIOXIDE)

DOMAN, N.G.; SHKOL'NIK, R.Ya.; TERENT'YEVA, Z.A.

Direct proof of the participation of phosphoglyceric acid in
the reducing photosynthetic cycle of carbon. Dokl. AN SSSR
156 no. 3:698-701 '64. (MIRA 17:5)

1. Institut biokhimii rasteniy im. A.N.Bakha AN SSSR. Pred-
stavleno akademikom N.M.Siskyanom.

ACC NR: AP6036448

SOURCE CODE: UR/0370/66/000/006/0142/0145

AUTHORS: Gurin, V. N. (Leningrad); Obukhov, A. P. (Leningrad); Terent'yeva, Z. P. (Leningrad); Bashinskaya, I. R. (Leningrad)

ORG: none

TITLE: The existence of intermetallic compounds in the system Nb-Zn

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1966, 142-145

TOPIC TAGS: niobium, zinc, intermetallic compound, x ray analysis, crystal lattice parameter

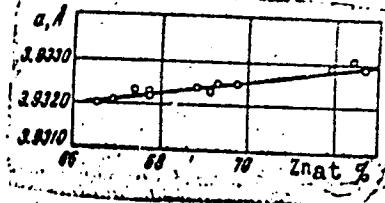
ABSTRACT: A new intermetallic compound of Nb and Zn was synthesized. The chemical composition, solubility in acids and bases at room temperature and elevated temperatures, and the lattice parameter of the compound were determined. The experimental results are summarized in graphs and tables (see Fig. 1). It was found that the compound had a stoichiometric composition of $\text{NbZn}_{2.0 - 2.7}$ and a copper type structure. The lattice parameter of the face-centered cubic lattice was $a = 3.9325 \text{ \AA}$.

Card 1/2

UDC: 546.882'47:541.123.24

ACC NR: AP6036448

Fig. 1. Dependence of the lattice parameter of compound $\text{NbZn}_{2.0-2.7}$ on the zinc content of the latter



Orig. art. has: 3 tables and 2 graphs.

SUB CODE: 11/ SUBM DATE: 13Sep64/ ORIG REF: 002/ OTH REF: 004

Card 2/2

S/032/62/028/007/006/011
B104/B102

AUTHORS: Maslov, I. A., Obukhov, A. P., and Terent'yeva, Z. P.
TITLE: Investigation into the reproducibility of a method for quickly
determining unbound silicon in refractory materials
PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 7, 1962, 841 - 842

TEXT: In this method, which was proposed by T. Ya. Kosolapova and Ye. Ye. Kotlyar (Zavodskaya laboratoriya, XXIV, 12, 1442 (1958)), a sample of powdered refractory material weighing 0.2 - 1.0 g, with a grain size 5 - 200 μ , is dissolved in 60 - 80 ml of a 1, 2, or 3% alkali solution at about 100°C and then filtered. The solution is neutralized and the Si is determined by gravimetry. The reproducibility of the method was determined from the mean square error of a series of measurements:

$$S_x^2 = \frac{\sum_{i=1}^m \sum_{j=1}^{n_i} x_{ij}^2 - \sum_{i=1}^m \frac{x_i^2}{n_i}}{\sum_{i=1}^m n_i - m} \quad (1)$$

Card 1/2

S/032/62/028/007/006/011
B104/B102

Investigation into the...

where S_x^2 = mean square error, m = number of analyses, n_i = number of parallel determinations, x_{ij} = results of the analyses, $x_i = \frac{1}{n_i} \sum_{j=1}^{n_i} x_{ij}$. The error in reproducibility varies from 0.23% for 0.4% unbound Si to 0.63% for 80% unbound Si. The refractory material used here contained Si, SiO_2 , SiC , and C. There are 1 figure and 1 table.

ASSOCIATION: Fiziko-tehnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

Card 2/2

L 1651-66 EWP(a)/EWT(m)/EWP(i)/ETC/EPF(n)-2/EN0(m)/EWP(t)/EWP(b) IJP(c)

JD/RW/JG/AT/EH
ACCESSION NR: AP5021548UR/0286/65/000/013/0012/0012
661.888.685.002.2

62

B

AUTHOR: Gurin, V. N.; Obukhov, A. P.; Terent'yeva, Z. P.; Bashinskaya, I. R.TITLE: Method of synthesizing metal disilicides. Class 12, No. 172285

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 12

TOPIC TAGS: metal disilicide, vanadium disilicide, niobium disilicide, tantalum disilicide, disilicide synthesis

ABSTRACT: This Author Certificate introduces a method of synthesizing vanadium, niobium, and tantalum disilicides by a reaction between metal and silicon taking place in a molten metal. In order to decrease the temperature of reaction, zinc is used as the molten metal and the process is conducted at the boiling point of zinc. Reaction products are subsequently separated from the molten metal. [AZ]

ASSOCIATION: Fiziko-tehnicheskiy institut im. A. F. Ioffe AN SSSR (Physicotechnical Institute, AN SSSR)

SUBMITTED: 03Jul64

ENCL: 00

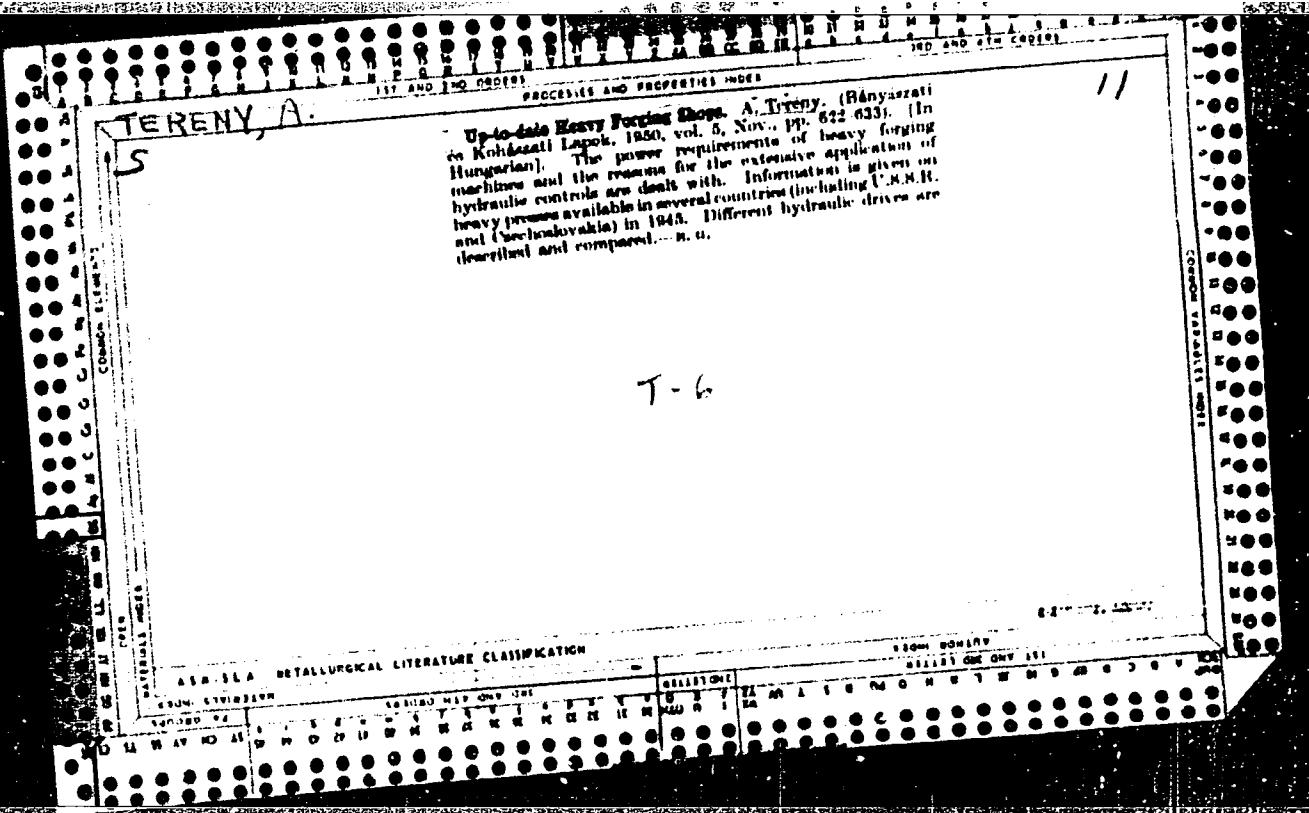
SUB CODE: 1G, MM

NO REF Sov: 000

OTHER: 000

ATD PRESS: 4093

Card 1/1 DP



TERENY, A.

The hydraulic forging press is a machine tool for a heavy forge.

P. 14, Vol. 4, no. 9, May 1955

SOURCE: Monthly list of East European Accessions, (EEAL), Lc, Vol. 5,
No. 3, March 1956

TERENY, A.

More economical stamp forging by means of a horizontal forging machine. p. 477.
Vol 7, no. 12, Dec. 1955. GEP. Budapest, Hungary.

So: Eastern European Accession. Vol 5, no. 4, April 1956

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755410005-3

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TERENY, A.

TERENY, A. Reducing the prime cost in a stamping forge. I. (To be contd.) p. 53.

Vol. 8, No. 2, Feb. 1956.

GEP
TECHNOLOGY

Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

TE 'ENY, A.

Reduction of prime cost by synchronous forging.

P. 269. (GEP.) (Budapest, Hungary) Vol. 9, No. 7/8, Oct./Nov. 1957

SO: Monthly Index of East European Accession (EAI) I.C. Vol. 7, No. 5, 1958

TERENY, A.

Justification of induction heating in our drop-forging industry. p. 516.

KOHASZATTI LAPOK. Budapest, Hungary. Vol. 14, no. 11, Nov. 1959.

Monthly List of East European Accessions (EEAT), LC, Vol. ~~XX, no. 1, Feb. 1960~~
Uncl. 9, no. 2, Feb. 1960

TERENY, Aladar

An account of the forging conference held April 20-29, 1960. Koh
lap 93 no.8:378-381 Ag '60.

REF ID: A052/A120

AUTHOR: Terény, Aladár

TITLE: Manufacturing large forgings

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no. 2, 1963, 2, abstract 'Vb4 Konasz. lapok, v. 15, no. 1, 1962, 42-22, Hungarian summaries in Russian, German and English.

TEXT: Economic methods of forging large-diameter rings and methods of manufacturing hollow forgings are discussed. Suggestions are made on mechanization of smith forging processes. There are 10 figures and 2 references.

M. Grinberg

(Abstracter's note: Complete translation.)

Card 1/1

L 32129-66 EWP(v)/T/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6023546

SOURCE CODE: HU/0014/65/098/012/0540/0548

27
B

AUTHOR: Tereny, Aladar (Graduate metallurgical engineer)

ORG: none

TITLE: Tool materials for and grooving of forging cylinders

SOURCE: Kohaszati lapok, v. 98, no. 12, 1965, 540-548

TOPIC TAGS: mechanical metal cutting, tool steel, forging machinery

ABSTRACT: A review was made of the operations involved in the manufacture of the cylinder segments from various steels, in the grooving of the segments, in the determination of the diameter decrease for various initial cross section configurations, in the determination of groove length, in the preparation of the works blueprints for grooved cylinders, and in the fitting of the cylinder segments. Numerical data were presented in tabular form to assist in setting up the manufacturing operations and some of the salient operations were illustrated with photographs. Equations for use in designing functions were given. Orig. art. has: 16 figures and 4 tables. [JPRS]

SUB CODE: 13, 11 / SUBM DATE: none

15
Card 1/1

UDC: 621.974.8/.975:669.14.018.2

09/15/19

TERENYI, Gyula

Manufacture of solid mullite ceramics. Epitoanyag 14 no.12:
475-478 D '62.

TERENYI, Gyula

Possibilities for the continuous combustion of oxide ceramic tubes.
Epitoanyag 15 nc.4:138-143 Ap '63.

1. Magnezitipari Mvek Kutato Laboratoriuma.

TERENYI, Gyula

Pressing high-purity refractory materials. Epitoanyag 15
no.12:461-463 D '63.

1. Magnezitipari Muvek Kutato Laboratoriuma.

TERENYI, Gyula

Injection moulding of ceramic materials. Epitoanyag 16
no.12s455-468 D '64.

1. Research Laboratory of Magnesite Industrial Works,
Budapest.

TERENYI, Laszlo

Serving the workers. Hungarian TU no.10:8-9 '0 '61.

1. General Secretary of the Hungarian Printing, Paper & Press Workers' Union.

TERENYI, Laszlo

The Hungarian Printing Workers Union is one hundred years old.
Hung TU no.5:8-9 My '62.

1. General Secretary of the Printing, Paper and Press Workers' Union.

TERENYI, Laszlo

The time for actions has come! Munka 13 no.6:14-15 Je '63.

1. Nyomda-, Papiripar es a Sajto Dolgozoi Szakszervezete
fotitkara.

TERENYI, L.

Herend porcelain. Epitoanyag 16 no. 81283-289 Ag '64.

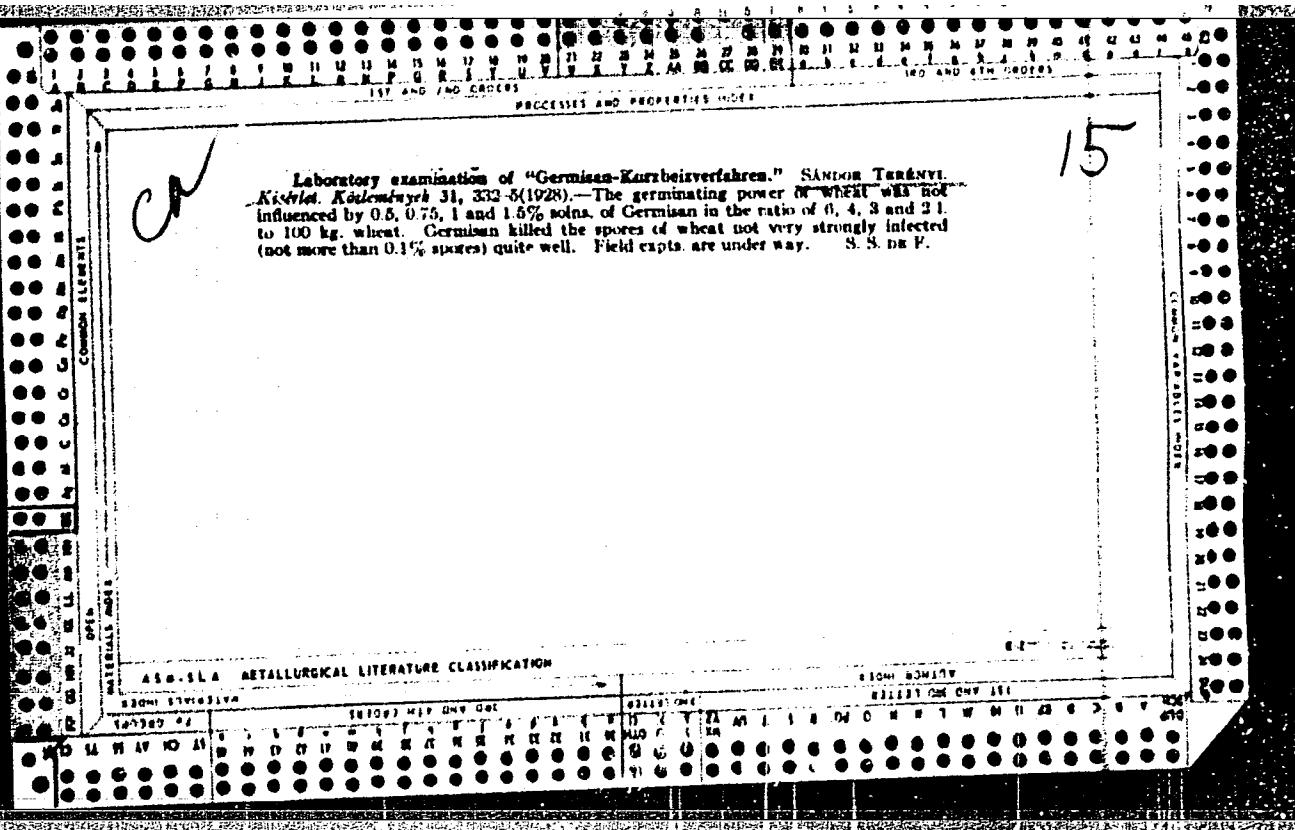
TMRENyi, Lazlo

Achievements of the Fine Ceramic Industry National Enterprise
at the Budapest International Fair. Epitoanyag 16 no.10:
389-390 O '64.

TERENYI, Laszlo; ANDRASOVSZKY, Gyorgy

The 125-year-old Herend Porcelain Factory. Epitoanyag 17 no.4:
149-152 Ap '6'.

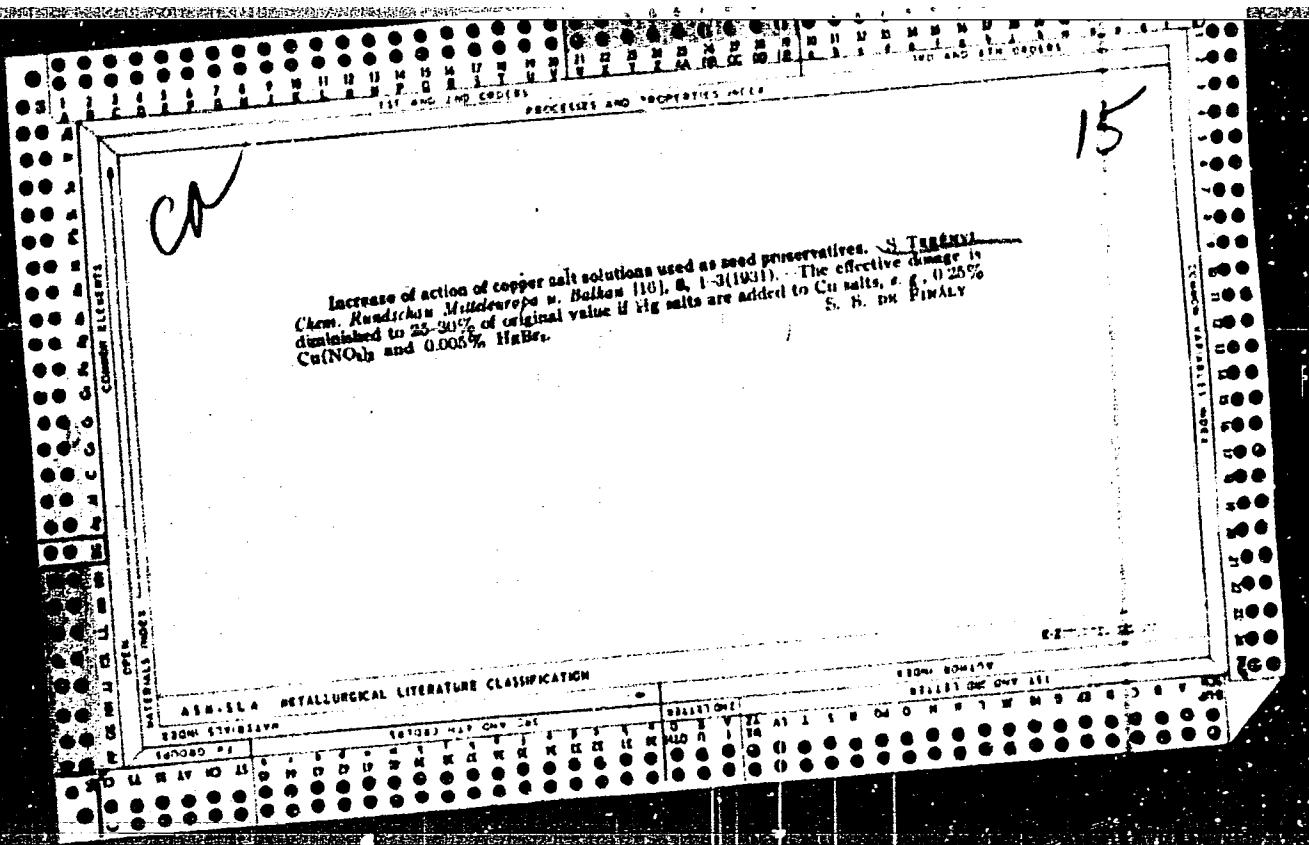
1. Fine Ceramic Industry National Enterprise, Budapest.



1/ No. 6, 400-17 (1931).—Cu-contg. fungicides increased sugar content and sugar yield of beets. S_2O_3 or Ba examples added to Cu compds. did not influence the yield, but Cu compd. mixed with As or Hg compds., increased it.

APPROVED FOR RELEASE: 07/16/2001

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CA

157

burning effect of arsenic sprays. Sándor Terényi (Növényegészségügyi Kutatóintézet, Budapest, Hung.). Agrártechnikai 2, 531-44 (1960).—The burning effect of various sprays on the leaves of apricot and apple trees was studied during 3 yrs. The limiting concns. detrimental to leaves were for sprays contg. water-sol. As(III) compds. in the form of As_3O_3 , Na_3AsO_3 , or K_3AsO_3 at levels of 0.01, 0.025, or 0.035, resp., for apricots and 0.03, 0.01, or 0.017%, resp., for apples. In the series of As(V) compds. the limiting values were for As_2O_5 0.03 and 0.06, Na_2HAsO_4 0.025 and 0.025, K_2HAsO_4 0.012 and 0.012, arsacetic (CH_3CONH_2), $As_2(OH)_3$ 0.08 and 0.21%, and cacodylic acid 0.023 and 0.036%, resp., for apricots and apples. As(III) or As(V) content alone does not det. the burning effect, since this depends on the actual compn. of the spray. Water-sol. As(III) or As(V) compds. show no detrimental effect during drying. If, however, the spray remains on the leaf surface 6-24 hrs. harmful effects appear, even when the spray is subsequently removed. Preprins. contg. 0.3% Schweinfurth green (I) burned apple leaves even when lime was present in the spray. An eq. soln. contg. 0.35% K arsenite was

detrimental to apricot leaves but not to apple leaves. When however, Bordeaux mixt. or Ba polysulfide or colloidal S was added, the burning effect was much greater. The detrimental effect was significantly reduced by the simultaneous use of Bordeaux mixt. and colloidal S. The effects of 40 inorg. As compds. were examined in detail and the results given. The addition of lime was generally advantageous and diminished the burning effect of As sprays. Some of the water-sol. As(III) and As(V) compds. showed burning effects smaller than those of 1 or Cu arsenate. The burning effect is due to the water-sol. compd., but insol. As compds. remaining on the surface often gradually dissolve and cause burning.

István Kónya

TERENYI, S.

Theoretical and practical aspects of substitution of copper in the protection of plants. p. 271. (Agrartudomány, Budapest, Vol. 6, no. 9, Sept. 1954)

SO: Monthly list of East European Accessions (EEAL), LC Vol 4, no. 6, June 1955 Unclassified

TERENYI, S.

External virus control against ~~pests~~ to ~~pest~~ damage

• Effectiveness of the virus against the caterpillars is best when the larvae have not yet penetrated deeply into the pet. Chem. control of the third generation is possible with spray's containing parathion 40 (50 g. 100 l) by applying 0.6 l / kg. per ha. (one liter per 1000 m²) when the caterpillars have eaten 1/3 of the food. It is best to spray in the morning.

TERENYI, S.

Instructions for spraying fruit trees. p. 217
KOZLEMENYEI, Budapest. Vol 8, no. 1/2, 1955.

SOURCE: EEAL Vol 5, no. 7, July 1956.

TERENYI, S.

HUNGARY / General and Specialized Zoology. Insects. P
Insect and Mite Posts.

Abs Jour : Ref Zhur - Biol., No 10, 1958, No 44856

Authors : Terenyi, S.; Bognar, S.

Inst : Hungarian Academy of Sciences.

Title : The Burrowing Root Moth and Results of its
Control in Hungary in 1950-53.

Orig Pub : Acta agron. Acad. sci. hung., 1956, 6, No.
3-4, 411-441

Abstract : In field experiments on the widely distributed
moth *Gnorimoschema ocellatella* Boyd 99.3% of
the larvae died from spraying with parathion
(0.06%) at an application rate of 0.36-1.9
kg/ha and 77.5% of the insects died from systox
(0.04%). DDT and hexachlorocyclohexane even
in higher concentrations and at an increased

Card 1/2

HUNGARY ; General and Specialized Zoology. Insects. P
Insect and Mite Pests.

Abs Jour : Ref Zhur - Biol., No 10, 1953 No 44856

rate were ineffective against the larvae of the older generations. The following parasites of the moth were found: Braconids-Challchella contracta and Orgilus sp., the ichneumonid Cremastus ornatus and the predator-Chrysopa sp., the ant Tetramorium caespitum and the spider Xysticus sp. 4-17% of the moth larvae were infected with parasites. -- N. M. Dobrokhотова.

Card 2/2

49

TERENYI, S.

TECHNOLOGY

PERIODICAL: MAGYAR KEMIKUSOK LAPJA. Vol. 13, no. 9, Sept. 1958

Terenyi, S. Development in production and research of insecticides
in Hungary. p. 317.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

3/28/63/000/005/0-2/056
P-14-1156

Author: Kozulin, W., Kuchmazy, W., Terepek, J.

TITLE: Distribution ratios in mixed solvents. I. Ideal mixtures of solvents. II. Non-ideal mixtures of solvents: chloroform + carbon tetrachloride and chloroform + n-hexane

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1963, 60-61, abstract JB400 (Bull. Acad. polon. sci. Ser. sci. chim., v. 9, no. 2, 1961, 595-599, 601-604 [Eng.; summary Russ.])

TEXT: I. The distribution is studied of 1-nitro-propane (I), o-nitro-aniline (II) and o-nitro-phenol (III) (in highly dilute solutions) between water and a mixture of iso-octane (IV) + hexadecane (V) at $20 \pm 1^\circ\text{C}$. It was established that for an ideal organic mixture of IV + V the following relation is true: $\log K_{x_0} = x_1 \log K_{x_1} + x_2 \log K_{x_2}$, where K_{x_0} , K_{x_1} and K_{x_2} in conformity with the distribution ratio of the substance distributed between the solvent mixture and the pure solvents are expressed as a ratio

Card 1/3

S/081/63/000/003/002/036
B144/B186

Distribution ratios in mixed ...

of the molar fraction of the substance distributed in the organic and aqueous phases, and x_1 and x_2 are the molar fractions of IV and V in the mixture. The equation is confirmed by the example of extraction of I. If the form and the dimensions of the molecules of the substance distributed differ markedly from the form and dimensions of the molecules of the solvents (e. g. in the case of II and III), the experimental data satisfy the equation: $\log K_{x_0} = \gamma_1 \log x_1 + \gamma_2 \log x_2$, where γ_1 and γ_2 are the volumetric fractions of the solvents in the mixture. Based on the examples studied it is shown that $\log K_c/K_0 = c(\text{org.})/c(\text{aqueous})$;

(c = concentration of the substance distributed in moles/g) proves not to be a linear function of x_1 . It is noted that in the ideal mixture of solvents $\log K_c$ can be a linear function of x_1 only in the case of the molar volumes of the solvents being equal. II. The distribution of p-nitro-phenol (VI) (concentration 10^{-3} mole/l) between water and a mixture

of benzene and chloroform (1:1) is given in Table I.

1.44. Iodine distribution in the system x_1 Iodine - x_2 n-hexane 8'44 8'86

$\log K_x = x_1 \log K_{x_1} + x_2 \log K_{x_2} + \varphi^E 4.475T$ (1), where φ^E is the excess free energy of mixing. For the non-ideal mixture of VII + n hexane (VIII), the values K_{x_1} , calculated from eq. (1) for the region rich in VIII, are somewhat lower than the experimental values. The differences between the experimental and calculated values K_{x_1} are explained on the basis of the nature of the solvation of VII by solvent molecules after the addition of the organic solution changes. This suggestion is confirmed by the example of iodine distribution in the system $H_2O - CCl_4 - C_6H_6$.

[Abstracter's note. Complete translation.]

Card 5/3

TERESENKO, A., inzh.; PONOMAREV, V., inzh.

Installing pneumatic transportation in grain mills. Muk.-elev. prom.
10:19-20 0 '57. (MIRA 11:1)
(Four mills) (Pneumatic-tube transportation)

TERESHCHENKO, A., inzhener.; PONOMAREV, V., inzhener.

Improvement of technology employed at farm mills. Muk.-elev. prom.
23 no.4:21-22 Ap '57. (MLRA 10:5)

1. Glavnoe upravleniye mukomol'noy promyshlennosti Ministerstva
promyshlennosti prosovol'stvennykh tovarov RSFSR.
(Grain milling machinery)

Tereashchenko, A.

TELENGATOR, M., kand. tekhn. nauk; TEREASHCHENKO, A., inzh.

State grain mills during 40 years. Muk.-olev. prom. 23 no.11:26-
27 N '57. (MIRA 11:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov
yego pererabotki (for Telengator). 2. Gosudarstvennaya planovaya
komissiya Soveta Ministrov RSFSR (for Tereashchenko).
(Grain milling)

PONOMAREV, V., inzh.; TERESHCHENKO, A., inzh.

Producing high-grade flour at rural mills. Muk.-elev.prom. 25
no.12:25-26 D '59. (MIRA 13:4)
(Flour mills)

TERESHCHENKO, A.

AVB-400 rotary drilling rig. Nov.neft.tekh.:Bur.no.7:8 '48.
(Oil well drilling--Equipment and supplies) (MLRA 9:4)

TERESHCHENKO, A.

L 6-3 draw works. Nev.neft.tekh.:Bur.no.7 :2-3 48(MLRA 9:4)
(Oil well drilling--Equipment and supplies)

ZINENKO, V.A.; PODKOSHA, G.P.; TERESHCHENKO, A.A.; TKACHENKO, A.P.;
KRASOVSKIY, V.V.

Ways of lowering the seismic action of large-scale blasts in
a pit of the Central Ore Dressing Combine. Gor. zhur. no.9:72
S '62. (MIRA 15:9)
(Krivoy Rog Basin--Blasting)

ARSENT'YEV, A.I., dotsent; YESHCHEKO, A.A., inzh.; BOYKO, N.P., inzh.;
TERESHCHENKO, A.A., inzh.

Constructing an open-pit in the Central Ore-Dressing Combine. Izv.
vys.ucheb.zav.; gor. zhur. 5 no.2:75-81 '62. (MIRA 15:4)

1. Krivorozhskiy gornorudnyy institut (for Arsent'yev, Yeshchenko).
2. TSentral'nyy gornoobogatitel'nyy kombinat (for Boyko, Tereshchenko).
(Krivoy Rog Basin—Strip mining)

U

ALEKSEYEV, F.K.; ANDRIYUTS, G.L.; ARSENT'YEV, A.I.; ASTAF'YEV, Yu.P.; BEVZ, N.D.; BEREZOVSKIY, A.I.; GENERALOV, G.S.; DOROSHENKO, V.I.; YESHCHEŃKO, A.A.; ZAPARA, S.A.; KALINICHENKO, V.F.; KARNAUSHENKO, I.K.; KIKOVKA, Ye.I.; KOBZEV, V.N.; KUPIN, V.Ye.; LOTOUS, V.K.; LYAKHOV, N.I.; MALYUTA, D.I.; METS, Yu.S.; OVODENKO, B.K.; OKSANICH, I.F.; PANOV, V.A.; POVZNER, Z.B.; PODORVANOV, A.Z.; POLISHCHUK, A.K.; POLYAKOV, V.G.; POTAPOV, A.I.; SAVITSKIY, I.I.; SERBIN, V.I.; SERGEYEV, N.N.; SOVETOV, G.A.; STATKEVICH, A.A.; TERESHCHENKO, A.A.; TITOV, O.S.; FEDIN, A.F.; KHOMYAKOV, N.P.; SHEYKO, V.G.; SHEKUN, O.G.; SESTAKOV, M.M.; SHTAN'KO, V.I.

Practice of construction and exploitation of open pits of Krivoy Rog Basin mining and ore dressing combines. Gor. zhur. no.6:
8-56 Je '63. (MIRA 16:7)

(Krivoy Rog Basin--Strip mining)

NOVOZHILOV, M.G., prof., doktor tekhn. nauk; DRUKOVANYY, M.F., kand. tekhn. nauk; YEFREMOV, E.I., gornyy inzh.; TERESHCHENKO, A.A., gornyy inzh.; SHESTAKOV, M.M., gornyy inzh.; PIL'NIK, I.L., gornyy inzh.

Experience in blasting of high benches at the Krivoy Rog Basin Central Mining and Ore Dressing Combine. Gor. zhur. no.11: 29-33 N '63. (MIRA 17:6)

1. Otdeleniye gornorudnykh problem AN UkrSSR (for Novozhilov, Drukovanyy, Yefremov). 2. TSentral'nyy Krivorozhskiy gorno-obogatitel'nyy kombinat (for Tereshchenko, Shestakov, Pil'nik).

DRUKOVANYY, M.F., kand. tekhn. nauk; YEFREMOV, E.I., gornyy inzh.;
TERESHCHENKO, A.A., gornyy inzh.; SHESTAKOV, F.K., kand. tekhn.
nauk; MALYY, I.S., gornyy inzh.

Crushing of rocks in blasting paired benches in the Central and
Ingulets Mining and Ore Dressing Combines in the Krivoy Rog
Basin. Vzryv. delo no.53/10:147-156 '63. (MIRA 16:8)

1. Otdel gornorudnykh problem AN UkrSSR (for Drukovanyy,
Yefremov). 2. TSentral'nyy gornoobogatitel'nyy kombinat
(for Tereshchenko, Shestakov). 3. Inguletskiy gornooboga-
titel'nyy kombinat (for Alekseyev, Malyy).
(Krivoy Rog Basin--Blasting)

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755410005-3

APPROVED FOR RELEASE: 07/16/2001
CIA-RDP86-00513R001755410005-3

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"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755410005-3

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755410005-3"

PODKOSHA, G.P., gornyy inzh.; TERESHCHENKO, A.A., gornyy inzh.

Using igdanite at an iron ore strip mine. Vzryv. delo no.54/11:
266-267 '64. (MIRA 17:9)

1. Rudnik Krivorozhskogo tsentral'nogo gornocobogatitel'nogo
kombinata.

BONDAR', A.P.; LOTOUS, V.K.; TVERSHCHENKO, A.A.

Experience in using combined transportation in strip mines. Gor.
zhur. no.6:74-75 Je '65. (MIRA 18:7)

1. Krivorozhskiy TSentral'nyy gornoobogatitel'nyy kombinat.

YEFREMOV, E.I., kand. tekhn. nauk; BURLAKA, A.V., inzh.; TERESHCHENKO, A.A., inzh.; SUKHAREVSKIY, B.N., inzh.

Further improvement of boring and blasting operations with high benches in open-cut mines of the Krivoy Rog Central Mining and Ore Dressing Combine. Vzryv. delo no. 57/14: 162-167 '65. (MIRA 18:11)

1. Filial Instituta mekhaniki AN UkrSSR (for Yefremov, Burlaka).
2. Krivorozhskiy TSentral'nyy gornoobogatitel'nyy kombinat (for Tereshchenko, Sukharevskiy).

ANTIPOV, A.A., inzh.; POPOV, V.G., kand.tekhn.nauk; TERESHCHENKO, A.F.,
kand.tekhn.nauk

Methods of calibrating propeller shafts. Sudostroenie 29 no.10:
64-66 O '63.
(MIRA 16:12)

TERESENCHENKO, A. F.

Methodology for the measurement of the temperature of surfaces.
Zav. lab. 30 no. 3: 317-318 '64.
(MIRA 17:4)

1. Nikolayevskiy korablestroitel'nyy institut.

study
TERESHCHENKO, A. F., CAND TECH SCI, "INVESTIGATION OF
HIGH-TEMPERATURE CHARACTERISTICS OF STRENGTH AND PLASTICITY
OF HEAT-RESISTANT MATERIALS IN ^{the} TEMPERING OF SPECIMENS BY THE
ELECTRICAL RESISTANCE METHOD." KIEV, 1961. (ACAD SCI UKSSR.
INST OF METALLOCERAMICS AND SPECIAL ALLOYS). (KL-DV, 11-61,
223).

-187-

21718

S/137/62/000/002/099/14
A060/A101

18.8.200

AUTHOR: Tereshchenko, A. F.

TITLE: On the heating of specimens by electric current for high-temperature testing

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 78, abstract 21526
("Sb. nauchn. tr. aspirantov Kiyevsk. politekhn. in-ta", Kiyev, 1961, 151-161)

TEXT: The conclusions of several authors as to the specific action of electric current upon the heterogeneous structure of an alloy and as to the influence of electric current upon the mechanical characteristics of materials are set forth. The results are cited of the experimental study of the authors by comparing the characteristics of strength and ductility of steel 1X18H9T (1Kh18N9T) and of metallo-ceramic materials on Si-carbide base under momentary tension with heating in a furnace and by electric current. The law of temperature distribution along the length and over the sections of the specimen under heating with electric current is described with sufficient precision by parabolic curves. No "Heweling effect" was uncovered in the course of stationary heating of steel

Card 1/2

On the heating of specimens ...

S/137/62/000/002/099/144
A060/A101

1Kh18N9T between the limits of 400 and 900°C. It is indicated that the heating by electric current yields a slight decrease in strength (by 5 - 8%), and the δ_s and δ_e of steel determined according to the usual methods are then higher than after heating in a furnace. No considerable difference in the tensile strength characteristics of steel and also of metallo-ceramic materials on Si-carbide base at 800 - 1,200°C was established. There are 10 references. *X*

V. Ferenets

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/001/049/237
A060/A101AUTHOR: Tereshchenko, A. F.

TITLE: On the influence of the heating method upon the durability of certain metallo-ceramic materials

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 37, abstract 10279
("Poroshk. metallurgiya", 1961, no. 3, 75 - 78 [English summary])TEXT: Using the example of durability testing (~200 hrs) of a composition on a base of Cr_3C_2 and SiC at 900 and 1,000°C, it was demonstrated that heating in a furnace and heating by the passage of electric current yield similar practical results, but the temperature distribution along the specimen length is considerably better in the first instance. The temperature drop between the middle of the specimen and its edges (total length 40 mm) under heating in a furnace up to 1,000°C constituted ~50°C, and under heating by electric current in cooled clamps - 250°C, and in uncooled clamps ~200°C.

R. Andriyevskiy

[Abstracter's note: Complete translation]

Card 1/1

S/032/61/027/001/021/037
B017/B054

AUTHORS: Tereshchenko, A. F. and Pisarenko, G. S.
TITLE: Effect of the Heating Method on Mechanical Characteristics
of 1X18H9T(1Kh18N9T) Steel in Elongation
PERIODICAL: Zavodskaya laboratoriya, 1961, Vol. 27, No. 1, pp. 81-84

TEXT: The authors made comparative studies of the effect of the heating method on mechanical characteristics (strength and refractoriness) of 1X18H9T (1Kh18N9T) steel. Tests were made by the East-German test machine ДСТ-5 (DST-5). Asbestos-insulated specimens were heated by electric current and in a furnace; it was found that specimens heated by electric current showed a 5-8% decrease in strength. This is explained by the fact that electric heating causes uneven temperature distribution along the steel specimens. The authors studied the strength, plasticity, and local plastic deformation of the specimens. The elasticity and fusibility of specimens were higher when heated by electric current than in the furnace. In addition, mean and uniform elongation were lower, while local plastic deformation was higher. Relative shrinkage and maximum elongation in

Card 1/2

Effect of the Heating Method on Mechanical
Characteristics of 1X 18H9T (1Kh18N9T)
Steel in Elongation

S/032/61/027/001/021/037
B017/B054

✓

percent were the same in both cases. There are 3 figures.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii
nauk USSR (Institute of Powder Metallurgy and Special Alloys,
Academy of Sciences UkrSSR)

Card 2/2

S/032/63/029/002/024/028
B101/B186

AUTHOR: Tereshchenko, A. F.

TITLE: Circuit for temperature programming in long-duration tests of heat resistant alloys

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 2, 1963, 232 - 234

TEXT: A simple circuit (Fig. 2) is suggested for programming the temperature change in long-life tests and creeping tests. The programming is effected by timing relays. The thermocouple $T(T)$ switches on the contacts $K\pi_1$ (KP_1) or $K\pi_2$ (KP_2) of the controlling potentiometer $\pi(P)$. KP_1 is switched on when the temperature of the specimen is lower than the mean temperature t_m or lower than the temperature adjusted by the potentiometer. The timing relay PB_1 (RV_1) adjusts the delayed switching from lower to higher temperatures and the relay PB_2 (RV_2) adjusts the delayed switching from higher to lower temperatures. Type $Pb-88$ ($RV-88$) is recommended as timing relay which permits a delay of 0 to 120 sec. If the temperature of the specimen is lower than t_m then the furnace is fed with an increased wattage over the closed contacts KP_1 , $K\pi(KRP)$ and KPB_1 (KRV_1).

Card 1/3

s/032/63/029/002/024/028
B101/B186

Circuit for temperature programming...

After t_m is attained the heating current is not reduced immediately but after the time adjusted at the relay RV2. t_m is adjusted at the variator PHO-5-250 (RNO-5-250). There are 3 figures.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences UkrSSR)

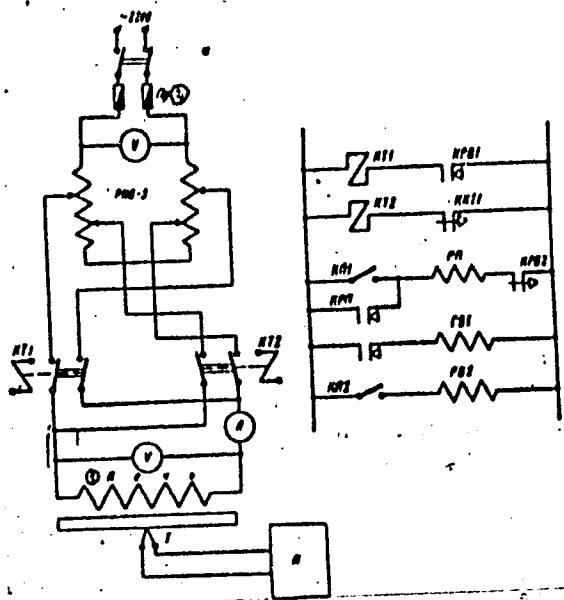
Fig. 2. Circuit for temperature programming; (a) heating circuit; (b) control circuit. KT1 (KT1) and KT2 (KT2) - contactor coils; P₁₁(RP) intermediate relays; KKT1 (KKT1) and KKT2 (KKT2) - contacts.

Legend: (1) furnace; (2) fuse.

Card 2/3

Circuit for temperature programming...

S/032/63/029/002/024/028
B101/B186



Card 3/3

L 1722-66 ENT(d)/B3

ACCESSION NR: AP5023125

UR/0103/65/026/009/1646/1648
621.376.223

AUTHOR: Tereashchenko, A. F. (Moscow)

TITLE: High-sensitivity semiconductor-type pulse modulators

SOURCE: Avtomatika i telemekhanika, v. 26, no. 9, 1965, 1646-1648

TOPIC TAGS: pulse modulation

ABSTRACT: To eliminate a low-level d-c amplifier with its undesirable zero-point drift, a high sensitivity pulse modulator is suggested which essentially consists of an interrupter, a linear pulse amplifier, a phase-sensitive level limiter, and a relaxation generator; the latter develops either a pulse-duration or pulse-rate signal and also serves as an interrupting-voltage source. These results of experimentation with a laboratory model of a pulse-duration modulator operating at a conversion frequency of 5 kc are reported: an output-pulse modulation of 70% corresponds to a 10-mv input signal from a sensor of 20-kohm resistance; nonlinear distortion, 3% or less; nonuniformity of the frequency characteristic, 6% within a signal-frequency band of 0-1 kc; spurious modulation, 4% for temperatures from +20 to +50C. Orig. art. has: 4 figures. [93]

Cord 1/2

L 1722-45

ACCESSION NR: AP5023125

ASSOCIATION: none

ENCL: 00

SUB CODE: EC

SUBMITTED: 21Jan65

OTHER: 000

ATD PRESS: 4096

NO REF Sov: 002

Card 2/2

ACC NR: AP6035907

SOURCE CODE: UR/0413/66/000/020/0152/0152

INVENTOR: Tereshchenko, A. F.

ORG: none

TITLE: Differential-type low voltage-to-pulse frequency converter. Class 42,
No. 187401

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 152

TOPIC TAGS: voltage converter, digital analog converter, frequency converter,
amplitude modulator, amplitude modulation

ABSTRACT: An Author Certificate has been issued for differential-type low voltage-to-pulse frequency converter containing a transistor amplitude modulator in each input,

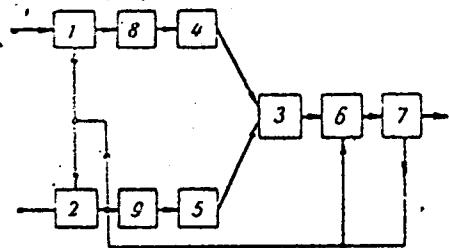


Fig. 1. Frequency converter

1, 2 - Modulators; 3 - differential amplifier; 4, 5 - matching units; 6 - level-holding unit; 7 - oscillator; 8, 9 - separation unit.

Card 1/2

UDC: 681.142.07:621.314.5

ACC NR: AP6035907

amplifying and matching units, a phase-sensitive level-holding unit, and a relaxation oscillator whose oscillation frequency depends on input voltage. To increase sensitivity and also to translate several source signals simultaneously, separation units are added between the modulators and matching units (see Fig. 1). Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 04Jan65/

Card 2/2

TERESHCHENKO, A. I.

Tereshchenko, A. I. -- "Several Operating Conditions of a Multisegment Magnetron With a Grid." Cand Phys-Math Sci, Khar'kov State U. Khar'kov 1953. (Referativnyy Zhurnal--Fizika, January 54)

SO: SUM 168, 22 July 1954

TERESHCHUK, A. I.

"Application of a Discriminator to Measurement of Small Capacities"
Uch. Zap. kharkovskogo univ., 4, 1953, pp 211-214

Small capacities are measured by a device consisting of a transition oscillator and a discriminator. The slope of the discriminator characteristic depends on the difference of the capacitors coupled in parallel with the diodes of the discriminator. The device is able to measure capacity below 0.5 mmf with an order of accuracy of $5 \cdot 10^{-3}$ mmf.
(RZhFiz, No 2, 1953)

SO: Sum. 452, 12 May 55

RESTRICTED

SER/142-58-4-29/30

AUTHOR:	Stolyarov, A.G.
TITLE:	All-Union Session Marking "Radio Day" ("Radioyurnaya iuchebnoye sestiny, posvyashchennaya "Radio Day")
PERIODICAL:	Izvestiya vuzovskikh uchebnykh zavedenii - Radiotekhnika. 1958, No. 4, pp. 517-521 (USSR)
ABSTRACT:	On the period May 12-17, 1958, an All-Union Scientific Session was held in Moscow, devoted to "Radio Day". It was organized by the Scientific Technical A.S. Popov Association for Radio-Engineering and Electro-Communications. 250 papers were read at the sessions. 55 in the field of information theory and more than 20 in the field of electronics, dealing with theoretical/experimental research on electronic equipment. V.I. Sklyrov spoke on "The Transmission Capacity of Single-Ray and Multi-Ray Communication Canals". L.I. Pilipov looked at the potential interference resistance of an ideal radio receiver. D.A. Merik spoke on "The Service of Electronic Signals by the Optimal Code of Shannon-Fano". V.A. Sazanov and I.S. Pivayev and discussed the use of the successive analysis method for determining weak signals in noise, and L.M. Likhanskaya on "The Potential of Interference Resistance in a Non-Definite Signal Phase". V.A. Kuzulin and G.A. Shchutina discussed "The Optimal Parameters of the Tele-measuring Systems with regard to Interference Resistance". B.S. Pleyman spoke on the question of creating an optimal code - in the Shannon conception - in the case of a binary symmetrical canal. L.P. Bondarenko discussed "The Method of Creating Several Codes with a Simple Base". In the field of electronics, P.A. Tarasev spoke on "Broad Band Electron Ray Tubes for Observation and Recording of Electric Impulses and Ultra-High Frequencies" and V.P. Radchenko examined the question of the practical utilization of tubes with a cathode not. G.P. Semenov, V.P. Sazonov, M.N. Chibisova and A.S. Bondarenko examined "Use of The Radiosonde with a High-Gain Transistor for Examining Electromagnetic Fields in Ionospheres and Ionsphere Gases".
Card 2/7	Card 2/7
	<p>Yuri Yu. Kuzulin spoke on "The Selection of Oscillatory Energy of an Electronic Current, Mediated according to Density". N.R. Golian discussed a negative cyclotron with a wide range of electron adjustment. S.I. Bykov explained the phenomenon of electron displacement and gave an approximate description of the frequency characteristics of the magnetron under conditions of high amplitude oscillations. A.I. Dzhurichuk spoke on "The Influence of Various Factors on a Cylindrical Magnetic Magnetron Field with a Grid".</p> <p>Yu. V. Lebedev-Karafilov spoke on "A New Revision of the Theory of Radio Engineering and Z.I. Medov discussed "Bridge Methods of Coordinating the Outputs of Several Generators".</p> <p>Yu. G. Kurnikovskii spoke on "The Theory of Non-Linear Oscillations in Radio Engineering".</p> <p>Yu. G. Kurnikovskii, V. A. Kurnikov and G.I. Slobodchik spoke on "The Influence of Magnetic Radiation on Systems not Sufficiently Distinguished by the Theory of Reciprocity in the Ultra-High Frequency Range".</p>

ПЕРСПЕКТИВЫ РАЗВИТИЯ

М. В. Галкин,
А. С. Тарев
О возможных работах по автоматизации радиолокации
СВЧ в интересах дальнейшего совершенствования радиолокации

В. О. Салмин
О практическом применении новых электронных
приборов в дальнейшем развитии

8 часов
(с 18 до 22 часов)

А. Я. Балашов
О новых транзисторных схемах в тонкой электронике
грунта

Г. А. Заболоцкий
О дальнейшем развитии логики с элементами
микросхем

М. В. Галкин
Метод расчета параметров центральных схем СВЧ
приемников передающих устройств РЛС

А. Н. Абрамов,
Ю. Н. Ивановский
Об определении коэффициента усиления для из-
вестных распределений в излучающей системе при
использовании линий

II

М. В. Галкин,
Возможности автоматизации радиолокации с опорой
на методы электронного обучения

10 часов
(с 10 до 18 часов)

А. Н. Тарасов,
В. А. Харламов
О возможностях улучшения параметров радиолокацион-
ных систем с помощью опорного излучения (Фор-
вард)

М. В. Кулаков,
А. В. Родин
К опоре в опорных фланговых схемах

М. В. Кулаков,
М. В. Борисов,
В. Е. Чечев
Электронные опоры (Форвард)

М. В. Балашов,
В. В. Ивановский,
В. А. Конев
Многодиапазонный транзистор для работы в узком
полосе приемника передающих линий в электронике грунта

III

Report submitted for the Centennial Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications in A. S. Popov (TVZhS), Moscow,
8-10 June, 1959

SOV/115-59-5-24/27

9(3), 28(2)

AUTHOR:

Tereshchenko, A.I.

TITLE:

Installation for Measuring Dielectric Shielding Factors on Extra High Frequencies

PERIODICAL:

Izmeritel'naya Tekhnika, 1959, Nr 5, pp 54-55 (USSR)

ABSTRACT:

In the Khar'kov State University the author has found a method (Ref.1,2,3) and constructed a device to measure dielectric shielding factors. It is based on the phase sensitivity of a wave guide crystal control. The crystal control serves for a comparison of the phase of the waves. These are reflected by the dielectric which is to be measured and by the standard resonator. The result of this comparison shows in the located current of the crystal control, which is proportional to the dielectric shielding factor of the sample. This method is used for testing high frequency dielectrics with small losses. With the help of a special cuvette it can also be used for liquid and gas dielectrics. There are 1 layout and 4 Soviet references.

Card 1/1

SHUBARIN, Yury Vasil'yevich MISHCHENKO, Yu.A., dotsent, retsentsent;
SHIFRIN, Ya.S., dotsent, retsentsent; TERESENKO, A.I., dotsent,
otv.red.; BAZILYANSKAYA, I.L., red.; NIKULINA, N.I., tekred.

[Microwave antennas] Antenny sverkhvysokikh chastot. Khar'kov,
Izd-vo Khar'kovskogo gos.univ., 1960. 283 p.

(MIRA 14:1)

(Antennas (Electronics))

DUBINSKIY, L.M.; ZAMANSKIY, S.M.; LOPATA, A.Ya.; NAN'KO, N.S.; RESNIK, H.D.; SKARZHEVSKIY, R.A.; TERESHCHENKO, A.I.; KOSTENKO, G.F., red.; TARASINKEVICH, P.P., red.; KAPLINSKIY, L.A., red.; SOROKA, M.S., red.

[The multiple-spindle 1261M and 1262M automatic lathes and 1261P, and 1262P semiautomatic lathes; handbook on adjustment and servicing] Mnogospindel'nye tokarnye avtomaty 1261M, 1262M i poluavtomaty 12662P; rukovodstvo po nalaadke i obsluzhivaniyu. Izd.2. Pod red. G.F.Kostenko, P.P.Tarasinkevicha i L.A.Kaplinskogo. Moskva, Mashgiz, 1960. 170 p. (MIRA 15:11)
(Lathes—Maintenance and repair)

21176

S/141/60/003/006/017/025
E192/E382

9.4210

AUTHORS: Tereslichenko, A.I. and Mints, M.Ya.

TITLE: Influence of Various Factors on the Magnitude of
Electron Frequency Shift in a Magnetron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Radiofizika, 1960, Vol. 3, No. 6, pp. 1054-1061

TEXT: The paper was read at the Scientific Technical
Conference GKRE in November, 1959.

Analysis of the equivalent circuit of a magnetron oscillator
shows that the relationship between the changes of the generated
frequency and the phase-shift angle for the high-frequency
component of the anode current and the high-frequency voltage
in the resonators is in the form (Refs. 1, 2):

$$f = f (1 + \operatorname{tg} \Theta / 2Q_H) \quad (1)$$

where Θ is the phase-shift angle between the high-frequency
component of the anode current and the high-
frequency voltage.

Card 1/7

21178

Influence of

S/141/60/003/006/017/025
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f is the generated frequency,

f_0 is the frequency in the absence of phase-shift and

Q_H is the quality factor of the oscillating system with load.

Eq. (1) shows that the frequency is primarily determined by mismatch angle Θ . For the determination of this angle it is possible to employ the theory suggested by Bychkov (Ref. 1). On the basis of this theory the mismatch angle Θ is expressed by:

$$\Theta \approx \Theta_r - \Theta_i \quad (3)$$

$$\Theta_r = \text{arc tg} (K_2 \sqrt{I_0} \cos \Theta_i) \quad (4)$$

(4)

in which Θ_i is the phase-shift angle between the induced current and voltage on the resonator and Θ_r is the phase-shift between the tangential component of the induced

Card 2/7

21178

S/141/60/003/006/017/025
E192/E382

Influence of

current and the induced current itself. The angle Θ is given by:

$$(1 + \operatorname{tg}\theta / 2Q_a) \cdot F_o(\alpha) = 2,275 R_2 \sqrt{I_o} \sin \theta, \quad (5)$$

$$\alpha = \operatorname{arc} \operatorname{tg} (L_2 \sqrt{I_o} \cos \theta), \quad (6)$$

where the function $F_o(\alpha)$ can be expressed by (Ref. 1)

$$F_o(\alpha) = (1 - 2,87 \sqrt{\alpha}) (1 - \operatorname{tg}^2 \alpha) - 3,6 (e^{\frac{\alpha}{2}} - e^{-\frac{\alpha}{2}}) \operatorname{tg} \alpha. \quad (7)$$

A graph of this function was given in Ref. 1. I_o in the above equations denotes the DC component of the anode current of the system. If the quantities $\alpha = L_2/R_2 \ll 1$, $\gamma = K_2/R_2 \ll 1$ and $\sqrt{L_2^2 + R_2^2} \approx R_2$, the relationship between and $x = I_o R_2$ can be simplified and written as

Card 3/7

21178

S/141/60/003/006/017/025
E192/E382

Influence of

$$\theta = \theta_0 - \sqrt{x} \cos \theta_0; \quad (17) \quad (17)$$

$$F_0(\bar{\alpha}) = -2,275 \sqrt{x} \sin \theta_0; \quad (18) \quad (18)$$

$$\bar{\alpha} = \operatorname{arc} \operatorname{tg} (\alpha \sqrt{x} \cos \theta_0). \quad (19) \quad (19)$$

For values of $\bar{\alpha}$ of less than 5° , Eq. (18) can be approximated by:

$$F_0(\bar{\alpha}) = 4 - 2.87 \sqrt[4]{\alpha} \quad (20)$$

In this case, the equations for $\bar{\alpha}$ and $F_0(\bar{\alpha})$ can be solved graphically and it is possible to determine a limiting value $x = x_1$ which corresponds to the minimum value of the anode currents $I_{01} = x_1 R_2^2$. It is then possible to obtain an analytical expression for x_1 and the corresponding

Card 4/7

21178
S/141/60/003/006/017/025
E192/E382

Influence of

angle θ_1 . From this the function $\tan \theta = f(x)$ in the vicinity of $x = x_1$ can be found and it is therefore possible to determine the frequency de-tuning in the vicinity of the minimum current I_{01} . It is shown that the de-tuning is expressed by:

$$\frac{\Delta f_1}{f_0} = \frac{f(I_0) - f(I_{01})}{f_0} \approx \frac{1}{2Q_n} \left(-\gamma \sqrt{x-1} - \frac{1}{\sqrt{x-1} + \gamma} + \operatorname{tg} \theta_{11} \right). \quad (39)$$

A graph of this function is shown in Fig. 2. The coefficient of the electronic frequency de-tuning can be expressed by:

$$z_1(I_0) = \frac{\partial f}{\partial I_0} = \frac{1}{4} \frac{f_0}{I_{01}Q_n} \frac{1}{\sqrt{x-1}} \left[-\gamma + \frac{1}{(\sqrt{x-1} + \gamma)^2} \right]. \quad (40)$$

Card 5/7

Influence of

21178
S/141/60/003/006/017/025
E192/E382

From this it is seen that at $x \approx 1/\gamma$, the current is equal to $I_{02} = (1/\gamma)R_2^2$. At this current the de-tuning coefficient is zero and consequently the maximum frequency stability is achieved. From the above, it is concluded that the maximum frequency de-tuning is obtained in the vicinity of the minimum current I_{01} , while the highest stability is obtained at the anode current I_{02} . Since the high-frequency output power is proportional to the anode current I_0 , it follows that the electron de-tuning curve (Fig. 2) represents also the dependence of power on frequency. There are 2 figures, 1 table and 2 Soviet references.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet
(Khar'kov State University)

SUBMITTED: March 1, 1960

Card 6/7

9/1310 (9/50 1130)

21579
S/109/60/005/010/002/031
E033/E415

AUTHORS: Kovtun, N.M. and Tereshchenko, A.I.

TITLE: Investigation of the Characteristics of Resonance
Ferrite Isolators (Valves) in H-Waveguides

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.10,
pp.1593-1597

TEXT: The authors briefly review the properties and applications of Π - and H-shaped waveguides. The wide-band properties of the H-waveguide, together with the directional attenuation properties of resonant ferrite isolators, may be used to obtain waveguide "valves". The manner in which the forward and reverse wave attenuations, the forward-to-reverse ratio and the bandwidth depend on the dimensions of the H-waveguide are investigated theoretically and experimentally. The investigation refers to an H-waveguide such as shown in Fig.1, with a ferrite lamina placed parallel to the narrow wall of the waveguide and magnetized along the axis z . The author (H.M.Kovtun, Ref.6) has previously derived a transcendental equation for the relative propagation constant of such an arrangement and, from this equation, an expression is now obtained by successive approximation which

Card 1/4

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Investigation of ...

expresses the forward and reverse attenuation in terms of the waveguide dimensions and the free-space wavelength. The results are presented graphically. Curves are given showing the relation between the forward and reverse wave losses and the position of the ferrite lamina in the waveguide with different values of the ratio of the waveguide dimensions g/b , g being the "bridge" dimension. For comparison, corresponding curves are given for a rectangular waveguide with dimensions a and b . The curves for the H-waveguides and the rectangular waveguides are similar; the ferrite position for minimum forward loss is the same for both and is independent of g/b . The position for maximum reverse loss moves to the centre of the waveguide as the ratio g/b is reduced. Maximum forward-to-reverse ratio occurs when the value of g/b is such that the positions of the ferrite for minimum forward loss and for maximum reverse loss coincide. The dependence of the forward and reverse losses on the position of the ferrite lamina for various values of the ratio a_4/a , a_4 being the width of the bridge. The parameter a_4/a has little effect on the position of the ferrite for maximum reverse loss and, therefore, the width a_4 can always be made such that a_0 equals

Card 2/4

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Investigation of ...

the distance from the wall to the bridge step (up to point A in Fig.1). In this case, the lamina has direct contact with the waveguide and better cooling is obtained. Also it is easier to fix the ferrite into the waveguide. The effect of asymmetry is discussed and it is concluded that the position of the ferrite corresponding to maximum reverse loss suffers little change for small asymmetry. The frequency characteristic of the "waveguide valve", i.e. the dependence of the forward and reverse losses on frequency, was investigated experimentally. The waveguide dimensions were $a = 23$ mm; $b = 10$ mm; $a_4/a = 0.39$; $g/b = 0.43$. The critical frequency was 1.6 times less than for the corresponding rectangular waveguide. The positions for the ferrite lamina for minimum forward and maximum reverse loss did not quite coincide but the difference was less than in the rectangular guide. The frequency characteristics for a single ferrite lamina are presented graphically. The reverse loss is greater than 27 db and the forward loss is of the order of 1.1 to 1.2 db in the 8000 to 10300 Mc/s band. For lower frequencies, the forward loss increases sharply. To improve the bandwidth, a dielectric lamina was included. The forward loss was then

Card 3/4

Investigation of ...

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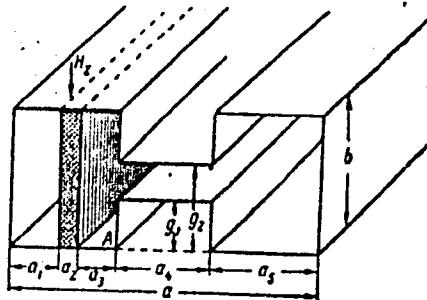
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practically constant at 0.4 db over the whole band and the forward-to-reverse ratio was not worse than 45. There are 7 figures and 6 references: 4 Soviet and 2 non-Soviet.

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SUBMITTED: December 26, 1959

Fig.1.



Card 4/4

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AUTHOR: Tereshchenko, A. I.

TITLE: A Waveguide With "Dumbbell" Cross Section ²⁵

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 9,
pp. 1074-1076

TEXT: In the introduction, the author thoroughly discusses the advantages and disadvantages of H-type waveguides. To avoid the disadvantages of this type of waveguide, a compromising solution is suggested which combines the advantages of the H-type waveguide with those of circular and rectangular waveguides. The result of a close analysis of the properties demanded of a waveguide is the "dumbbell" cross section shown in Fig. 1. The shape of this cross section was chosen in such a way that the curvature of the electric field lines changes smoothly from one side of the waveguide to the other. It can easily be shown by physical considerations that this type of waveguide has the advantages of the H-type waveguide (wide range, low resistance, and small dimensions) with little probability of a breakdown between the upper and lower walls at the same time. The author compares a rectangular waveguide (2.3·1.0 cm) with the critical

Card 1/3

A Waveguide With "Dumbbell" Cross Section

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wavelength 4.6 cm, an H-type waveguide with the critical wavelength 6.05 cm, and the "dumbbell" waveguide shown in Fig. 2. The dimensions of this waveguide are: $2a = 2.3$ cm, $2b = 1.0$ cm, $2g = 0.4$ cm, and $r_A = 0.35$ cm. These data assign the "dumbbell" waveguide a certain intermediate position between the two other types. If the parameters are modified, $2g$ and r_A must be changed at the same time. An experimental investigation of the critical wavelength of the "dumbbell" waveguide yielded satisfactory results in consideration of the approximate calculation and the low accuracy of shape of the cross section. There are 2 figures and 5 references: 2 Soviet and 3 US.

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SUBMITTED: March 14, 1960

Card 2/3

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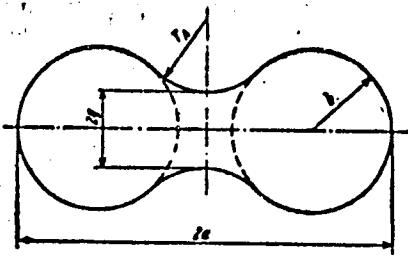


Fig. 2.

Card 3/3

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AUTHORS: Kovtun, N. M. and Terechchenko, A. I.

TITLE: Calculation of the Propagation Constants in H-Type Wave-guides With a Cross-magnetized Ferrite PlatePERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 9,
pp. 1077-1080

TEXT: The authors present some results of an investigation of the propagation constants in an H-type waveguide with a cross-magnetized ferrite plate ($a_2 = 3$ mm) which is directly fastened onto the wall of the waveguide (Fig. 1). The overall width of the waveguide is $a = 23$, its overall height $b = 10$ mm (standard 3-cm waveguide). A formula (1) is given for the propagation constant. Some results obtained by interpolation of (1) are graphically shown in Figs. 2 and 3. The authors studied the dependence of the difference in phase shifts on the antisymmetrical components of the magnetic permeability tensor at different heights of the waveguide bridge, this dependence being equal to that of a rectangular waveguide. The dependence of the maximum difference of phase shift on the bridge

Card 1/3

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Calculation of the Propagation Constants in S/057/60/030/009/013/021
H-Type Waveguides With a Cross-magnetized Fer- B019/B054
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width is linear, i.e., the maximum difference of phase shift with given parameters is the smaller, the longer the critical wavelength. This is explained by the fact that the propagation conditions in these waveguides approach those in the free space. Further, the authors conclude that it is necessary to use waveguides with short critical wavelengths to obtain large phase shifts. There are 3 figures and 9 references: 6 Soviet and 3 US.

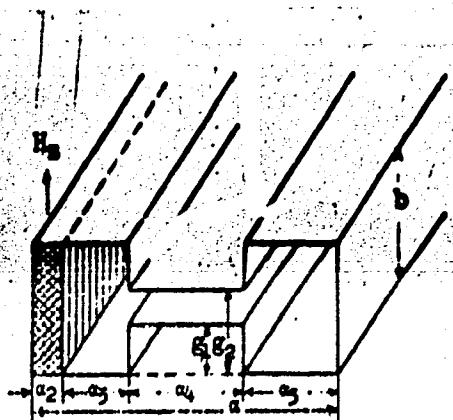
ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo
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SUBMITTED: February 8, 1960

Card 2/3

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Card 3/3